ENVIRONMENTAL SERVICES
SPB05-894P-JJ

1. PARTIES

THIS CONTRACT, is entered into by and between the State of Montana, Department of Administration, State Procurement Bureau, (hereinafter referred to as "the State"), whose address and phone number are Room 165 Mitchell Building, 125 North Roberts, PO Box 200135, Helena MT 59620-0135, (406) 444-2575 and **MSE Technology Applications, Inc.**, (hereinafter referred to as the "Contractor"), whose nine digit Federal ID Number, address and phone number are 81-0397623, 200 Technology Way, Butte MT 59701 and (406) 494-7100.

THE PARTIES AGREE AS FOLLOWS:

2. EFFECTIVE DATE, DURATION, AND RENEWAL

2.1 Contract Term. This contract shall take effect upon execution of all signatures, and terminate on June 30, 2006, unless terminated earlier in accordance with the terms of this contract. (Mont. Code Ann. § 18-4-313.)

2.2 Contract Renewal. This contract may, upon mutual agreement between the parties and according to the terms of the existing contract, be renewed in one-year intervals, or any interval that is advantageous to the State, for a period not to exceed a total of five additional years. This renewal is dependent upon legislative appropriations.

2.3 Addition of Contractors or Services. Each renewal period will allow for current contractors to update qualifications and request inclusion in another service area. New firms will also be allowed the opportunity to submit their qualifications for addition to the term contract listing. Current term contract holders wishing to expand the services offered and new firms wishing to be included on the term contract listing must submit a new proposal to the State Procurement Bureau (SPB) for evaluation. Requests to be included in the term contract listing or for expansion of services must be submitted to SPB between April 1 and May 1, SPB will issue a determination of inclusion by June 1.

3. NON-EXCLUSIVE CONTRACT

The intent of this contract is to provide state agencies with an expedited means of procuring supplies and/or services. This contract is for the convenience of state agencies and is considered by the State Procurement Bureau to be a "Non-exclusive" use contract. Therefore, agencies may obtain this product/service from sources other than the contract holder(s) as long as they comply with Title 18, MCA, and their delegation agreement. The State Procurement Bureau does not guarantee any usage.

4. COOPERATIVE PURCHASING

Under Montana law, public procurement units, as defined in section 18-4-401, MCA, have the option of cooperatively purchasing with the State of Montana. Public procurement units are defined as local or state public procurement units of this or any other state, including an agency of the United States, or a tribal procurement unit. Unless the bidder/offeror objects, in writing, to the State Procurement Bureau prior to the award of this contract, the prices, terms, and conditions of this contract will be offered to these public procurement units.

5. TERM CONTRACT REPORTING

Term contract holder(s) shall furnish annual reports of term contract usage. Each report shall contain complete information on all public procurement units utilizing this term contract. Minimum information required to be included in usage reports: name of the agency or governmental entity who contacted you regarding a potential

project; project title; agency contact person; if the project was not successfully negotiated, state the reason; number and title of contracts received; total dollar amounts for contracts received; the names of your company personnel involved in the project; and project status as of usage report date. The report for this term contract will be due on July 20th of each year.

Reported volumes and dollar totals may be checked by the State Procurement Bureau against State records for verification. Failure to provide timely or accurate reports is justification for cancellation of the contract and/or justification for removal from consideration for award of contracts by the State.

6. COST/PRICE ADJUSTMENTS

6.1 Cost Increase by Mutual Agreement. After the initial term of the contract, each renewal term may be subject to a cost increase by mutual agreement.

6.2 Differing Site Conditions. If, during the term of this contract, circumstances or conditions are materially different than set out in the specifications, the Contractor may be entitled to an equitable adjustment in the contract price. The Contractor shall immediately cease work and notify, in writing, the State of any such conditions necessitating an adjustment as soon as they are suspected and prior to the changed conditions affecting the performance of this contract. Any adjustment shall be agreed upon in writing by both parties to the contract.

6.3 Cost/Price Adjustment. All requests for cost/price adjustment must be submitted between April 1st and April 30th along with written justification. Requests received after April 30th will not be considered unless written approval from the SPB Contracts Officer is given to submit at a later date. In no event will cost/price adjustments be allowed beyond May 15th. All requests that are approved will be incorporated by contract amendment and made effective July 1st of the next approved renewal period.

7. SERVICES AND/OR SUPPLIES

7.1 Description of Services. Contractor agrees to provide to the State analytical laboratory services as detailed in Attachment A. The analytical laboratories used by the State, in particular the Montana Department of Environmental Quality (DEQ) Non-Point Source Program, its contractors and grantees must meet minimum qualifications with the services that they provide, the quality system that they operate under and their ability to provide the information in a useable format. The quality system and deliverable format (STORET) requirements are pass-through requirements of the funding that DEQ receives, in whole or part, from the EPA.

The scope of analytical services required by the NPS program is very broad and can include, but is not limited to: ambient water testing, wastewater analyses, drinking water testing, standing crop/algae/chlorophyll a, sediment characterization, waste characterization, radiochemistry, etc.

7.2 Reuse of Documents. When the projects dictate a design or engineered approach, the State agrees that it will not apply the Contractor's designs to any other projects.

8. CONSIDERATION/PAYMENT

8.1 Payment Schedule. In consideration for the services to be provided, the State shall pay according to the negotiated agreement for each project. Hourly rates and miscellaneous charges as provided in Attachment B shall apply.

8.2 Withholding of Payment. The State may withhold payments to the Contractor if the Contractor has not performed in accordance with this contract. Such withholding cannot be greater than the additional costs to the State caused by the lack of performance.

9. CONTRACTOR WITHHOLDING

Section 15-50-206, MCA, requires the state agency or department for whom a public works construction contract over $5,000 is being performed, to withhold 1 percent of all payments and to transmit such monies to the Department of Revenue.

10. ACCESS AND RETENTION OF RECORDS

10.1 Access to Records. The Contractor agrees to provide the State, Legislative Auditor or their authorized agents access to any records necessary to determine contract compliance. (Mont. Code Ann. § 18-1-118.)

10.2 Retention Period. The Contractor agrees to create and retain records supporting the environmental services for a period of three years after either the completion date of this contract or the conclusion of any claim, litigation or exception relating to this contract taken by the State of Montana or a third party.

11. ASSIGNMENT, TRANSFER AND SUBCONTRACTING

The Contractor shall not assign, transfer or subcontract any portion of this contract without the express written consent of the State. (Mont. Code Ann. § 18-4-141.) The Contractor shall be responsible to the State for the acts and omissions of all subcontractors or agents and of persons directly or indirectly employed by such subcontractors, and for the acts and omissions of persons employed directly by the Contractor. No contractual relationships exist between any subcontractor and the State.

12. HOLD HARMLESS/INDEMNIFICATION

The Contractor agrees to protect, defend, and save the State, its elected and appointed officials, agents, and employees, while acting within the scope of their duties as such, harmless from and against all claims, demands, causes of action of any kind or character, including the cost of defense thereof, arising in favor of the Contractor's employees or third parties on account of bodily or personal injuries, death, or damage to property arising out of services performed or omissions of services or in any way resulting from the acts or omissions of the Contractor and/or its agents, employees, representatives, assigns, subcontractors, except the sole negligence of the State, under this agreement.

13. REQUIRED INSURANCE

13.1 General Requirements. The Contractor shall maintain for the duration of the contract, at its cost and expense, insurance against claims for injuries to persons or damages to property, including contractual liability, which may arise from or in connection with the performance of the work by the Contractor, agents, employees, representatives, assigns, or subcontractors. This insurance shall cover such claims as may be caused by any negligent act or omission.

13.2 Primary Insurance. The Contractor's insurance coverage shall be primary insurance as respect to the State, its officers, officials, employees, and volunteers and shall apply separately to each project or location. Any insurance or self-insurance maintained by the State, its officers, officials, employees or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

13.3 Specific Requirements for Commercial General Liability. The Contractor shall purchase and maintain occurrence coverage with combined single limits for bodily injury, personal injury, and property damage of $1,000,000 per occurrence and $2,000,000 aggregate per year to cover such claims as may be caused by any act, omission, or negligence of the Contractor or its officers, agents, representatives, assigns or subcontractors.

13.4 Additional Insured Status. The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insureds; for liability arising out of activities performed by or on behalf of the Contractor, including the insured's general supervision of the Contractor; products and completed operations; premises owned, leased, occupied, or used.

13.5 Specific Requirements for Automobile Liability. The Contractor shall purchase and maintain coverage with split limits of $500,000 per person (personal injury), $1,000,000 per accident occurrence (personal injury), and $100,000 per accident occurrence (property damage), OR combined single limits of $1,000,000 per occurrence to cover such claims as may be caused by any act, omission, or negligence of the contractor or its officers, agents, representatives, assigns or subcontractors.

13.6 Additional Insured Status. The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insureds for automobiles leased, hired, or borrowed by the Contractor.

13.7 Specific Requirements for Professional Liability. The Contractor shall purchase and maintain occurrence coverage with combined single limits for each wrongful act of $1,000,000 per occurrence and $2,000,000 aggregate per year to cover such claims as may be caused by any act, omission, negligence of the Contractor or its officers, agents, representatives, assigns or subcontractors. Note: if "occurrence" coverage is unavailable or cost prohibitive, the Contractor may provide "claims made" coverage provided the following conditions are met: (1) the commencement date of the contract must not fall outside the effective date of insurance coverage and it will be the retroactive date for insurance coverage in future years; and (2) the claims made policy must have a three year tail for claims that are made (filed) after the cancellation or expiration date of the policy.

13.8 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be declared to and approved by the state agency. At the request of the agency either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the State, its officers, officials, employees, or volunteers; or (2) at the expense of the Contractor, the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claims administration, and defense expenses.

13.9 Certificate of Insurance/Endorsements. A certificate of insurance from an insurer with a Best's rating of no less than A- indicating compliance with the required coverages, has been received by the State Procurement Bureau, PO Box 200135, Helena MT 59620-0135. The Contractor must notify the State immediately, of any material change in insurance coverage, such as changes in limits, coverages, change in status of policy, etc. The State reserves the right to require complete copies of insurance policies at all times.

14. COMPLIANCE WITH THE WORKERS' COMPENSATION ACT

Contractors are required to comply with the provisions of the Montana Workers' Compensation Act while performing work for the State of Montana in accordance with sections 39-71-120, 39-71-401, and 39-71-405, MCA. Proof of compliance must be in the form of workers' compensation insurance, an independent contractor's exemption, or documentation of corporate officer status. Neither the contractor nor its employees are employees of the State. This insurance/exemption must be valid for the entire term of the contract. A renewal document must be sent to the State Procurement Bureau, PO Box 200135, Helena MT 59620-0135, upon expiration.

15. COMPLIANCE WITH LAWS

The Contractor must, in performance of work under this contract, fully comply with all applicable federal, state, or local laws, rules and regulations, including the Montana Human Rights Act, the Civil Rights Act of 1964, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990, and Section 504 of the Rehabilitation Act of 1973. Any subletting or subcontracting by the Contractor subjects subcontractors to the same provision. In accordance with section 49-3-207, MCA, the Contractor agrees that the hiring of persons to perform the contract will be made on the basis of merit and qualifications and there will be no discrimination

based upon race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing the contract.

16. INTELLECTUAL PROPERTY

All patent and other legal rights in or to inventions created in whole or in part under this contract must be available to the State for royalty-free and nonexclusive licensing. Both parties shall have a royalty-free, nonexclusive, and irrevocable right to reproduce, publish or otherwise use and authorize others to use, copyrightable property created under this contract.

17. PATENT AND COPYRIGHT PROTECTION

17.1 Third Party Claim. In the event of any claim by any third party against the State that the products furnished under this contract infringe upon or violate any patent or copyright, the State shall promptly notify Contractor. Contractor shall defend such claim, in the State's name or its own name, as appropriate, but at Contractor's expense. Contractor will indemnify the State against all costs, damages and attorney's fees that accrue as a result of such claim. If the State reasonably concludes that its interests are not being properly protected, or if principles of governmental or public law are involved, it may enter any action.

17.2 Product Subject of Claim. If any product furnished is likely to or does become the subject of a claim of infringement of a patent or copyright, then Contractor may, at its option, procure for the State the right to continue using the alleged infringing product, or modify the product so that it becomes non-infringing. If none of the above options can be accomplished, or if the use of such product by the State shall be prevented by injunction, the State will determine if the Contract has been breached.

18. CONTRACT TERMINATION

18.1 Termination for Cause. The State may, by written notice to the Contractor, terminate this contract in whole or in part at any time the Contractor fails to perform this contract.

18.2 Reduction of Funding. The State, at its sole discretion, may terminate or reduce the scope of this contract if available funding is reduced for any reason. (See Mont. Code Ann. § 18-4-313(3).)

19. STATE PERSONNEL

19.1 State Contract Manager. The State Contract Manager identified below is the State's single point of contact and will perform all contract management pursuant to section 2-17-512, MCA, on behalf of the State. Written notices, requests, complaints or any other issues regarding the contract should be directed to the State Contract Manager.

The State Contract Manager for this contract is:

Robert Oliver, Contracts Officer
Room 165 Mitchell Building
125 North Roberts
PO Box 200135
Helena MT 59620-0135
Telephone #: (406) 444-0110
Fax #: (406) 444-2529
E-mail: roliver@mt.gov

19.2 State Project Manager. Each using State agency or Cooperative Purchaser will identify a Project Manager in the project task order. The Project Manager will manage the day-to-day project activities on behalf of the State/Cooperative Purchaser.

20. CONTRACTOR PERSONNEL

20.1 Change Of Staffing. Since qualifications of personnel was key in determining which offerors were selected to be on this term contract list, a written notification to the State Procurement Bureau of any changes of key personnel must be made within two weeks of the change. These change notifications will be completed upon the departure or hiring of key personnel who are professional employees critical to awarded service areas. If these staffing changes cause the firm to no longer meet the qualifications stated herein, that firm will be removed from the service area of this term contract. Failure to notify the State Procurement Bureau of staffing changes could result in the contractor being removed from the term contract listing and possible suspension from bidding on other State projects.

20.2 Contractor Contract Manager. The Contractor Contract Manager identified below will be the single point of contact to the State Contract Manager and will assume responsibility for the coordination of all contract issues under this contract. The Contractor Contract Manager will meet with the State Contract Manager and/or others necessary to resolve any conflicts, disagreements, or other contract issues.

The Contractor Contract Manager for this contract is:

William Ferko
200 Technology Way
Butte MT 59701
Telephone #: (406) 494-7100

20.3 Contractor Project Manager. The Contractor Project Manager identified below will manage the day-to-day project activities on behalf of the Contractor:

The Contractor Project Manager for this contract is:

Gary Wyss
200 Technology Way
Butte MT 59701
Telephone #: (406) 494-7100

21. MEETINGS

The Contractor is required to meet with the State's personnel, or designated representatives, to resolve technical or contractual problems that may occur during the term of the contract or to discuss the progress made by Contractor and the State in the performance of their respective obligations, at no additional cost to the State. Meetings will occur as problems arise and will be coordinated by the State. The Contractor will be given a minimum of three full working days notice of meeting date, time, and location. Face-to-face meetings are desired. However, at the Contractor's option and expense, a conference call meeting may be substituted. Consistent failure to participate in problem resolution meetings two consecutive missed or rescheduled meetings, or to make a good faith effort to resolve problems, may result in termination of the contract.

22. CONTRACTOR PERFORMANCE ASSESSMENTS

The State may do assessments of the Contractor's performance. This contract may be terminated for one or more poor performance assessments. Contractors will have the opportunity to respond to poor performance assessments. The State will make any final decision to terminate this contract based on the assessment and any related information, the Contractor's response and the severity of any negative performance assessment. The Contractor will be notified with a justification of contract termination. Performance assessments may be considered in future solicitations.

23. TRANSITION ASSISTANCE

If this contract is not renewed at the end of this term, or is terminated prior to the completion of a project, or if the work on a project is terminated, for any reason, the Contractor must provide for a reasonable period of time after the expiration or termination of this project or contract, all reasonable transition assistance requested by the State, to allow for the expired or terminated portion of the services to continue without interruption or adverse effect, and to facilitate the orderly transfer of such services to the State or its designees. Such transition assistance will be deemed by the parties to be governed by the terms and conditions of this contract, except for those terms or conditions that do not reasonably apply to such transition assistance. The State shall pay the Contractor for any resources utilized in performing such transition assistance at the most current rates provided by the contract. If there are no established contract rates, then the rate shall be mutually agreed upon. If the State terminates a project or this contract for cause, then the State will be entitled to offset the cost of paying the Contractor for the additional resources the Contractor utilized in providing transition assistance with any damages the State may have otherwise accrued as a result of said termination.

24. CHOICE OF LAW AND VENUE

This contract is governed by the laws of Montana. The parties agree that any litigation concerning this bid, proposal or subsequent contract must be brought in the First Judicial District in and for the County of Lewis and Clark, State of Montana and each party shall pay its own costs and attorney fees. (See Mont. Code Ann. § 18-1-401.)

25. SCOPE, AMENDMENT AND INTERPRETATION

25.1 Contract. This contract consists of eight numbered pages, RFP # SPB05-894P**,** as amended, Attachment A, Contractor's RFP response as amended, and Attachment B, Cost Proposal. In the case of dispute or ambiguity about the minimum levels of performance by the Contractor the order of precedence of document interpretation is in the same order.

25.2 Entire Agreement. These documents contain the entire agreement of the parties. Any enlargement, alteration or modification requires a written amendment signed by both parties.

26. EXECUTION

The parties through their authorized agents have executed this contract on the dates set out below.

DEPARTMENT OF ADMINISTRATION
STATE PROCUREMENT BUREAU
PO BOX 200135
HELENA MT 59620-0135

BY: _____
Penny Moon, Contracts Officer

BY: _____
(Signature)

DATE: _____

MSE Technology Applications, Inc.
200 TECHNOLOGY WAY
BUTTE MT 59701
FEDERAL ID # 81-0397623

BY: _____
(Name/Title)

BY: _____
(Signature)

DATE: _____

ATTACHMENT A
CONTRACTOR'S RESPONSE

PART I. INTRODUCTION

I.1 HKM Analytical Laboratory Overview

The HKM Analytical Laboratory (HKM Lab), a division of HKM Engineering Inc., is pleased to submit this proposal to the Montana Department of Administration (MDA), State Procurement Bureau, in response to Request for Proposal No. SPB05-894P, "Environmental Services." We are confident in our ability to provide MDA with the best balance of quality analytical services at a competitive price. The HKM Lab is experienced in many analytical areas, ranging from compliance drinking water analyses to evaluation of process waste streams. Also, because of our association with HKM Engineering Inc. – a company with many years of experience in environmental monitoring and remediation activities – many of our personnel are experienced in environmental sampling techniques. This gives our staff a unique appreciation for the potential complexities involved in collecting and analyzing environmental samples.

The HKM Lab is experienced in many types of sample analyses, including:

- Inorganic metals;
- Inorganic non-metallic analyses, or "wet chemistry;"
- Organics;
- Safe Drinking Water Act (SDWA) compliance; and
- Determination of various physical properties.

Much of the HKM Lab's work is related to environmental analysis and remediation activities within the Silver Bow Creek/Butte Area (SBC) Superfund site, one of the largest in the U.S. Our degreed staff represents a wide range of professional disciplines – including chemistry, environmental engineering, biology, and earth science – and is augmented by laboratory technicians with many years of experience operating analytical instrumentation.

This proposal has been structured to provide MDA with clear, readily accessible responses to each information requirement outlined in the RFP. Part II presents the responses to each RFP requirement in the order stated; for those items requiring explanation, we have identified the proposal section (s) wherein complete information is provided. Items requiring acknowledgement, but not explanation, are also listed, along with confirmation of the HKM Lab's understanding and acceptance of the terms or conditions stated therein.

Contact Information

HKM Analytical Laboratory
106 S. Parkmont
P.O. Box 3588
Butte, MT 59702
(406) 494-1502
FAX (406) 494-1502

Gary Wyss, Laboratory Manager
gwyss@hkminc.com

PART III. NARRATIVE RFP RESPONSES

III.1 References

The following paragraphs provide references for five current major projects for which the HKM Lab is providing analytical services:

- Butte-Silver Bow Public Water Supply Monitoring
- LAO Operable Unit and BPS Operable Unit Groundwater/Stormwater Monitoring
- Mine Waste Technology Testing Program
- Short-Term Groundwater Monitoring and Opportunity Ponds Pilot Project
- Leviathan Mine Reclamation

Butte-Silver Bow Public Water Supply Monitoring

Client: Butte-Silver Bow Public Works Department
Contact: Marty Hovan (406) 723-9429
Service Area: Drinking Water Testing
Date of Services:

The HKM Lab performs bacteriological analyses for daily water samples collected by Butte-Silver Bow County using membrane filter and Colilert/Colisure methods. The samples are collected to demonstrate compliance with State of Montana regulations.

The HKM Lab also performs drinking water testing for numerous small, private clients (e.g., homeowners installing new wells). Samples are typically analyzed for bacteriological acceptability, nitrates, and often trace metals and other general chemistry parameters.

Lower Area One (LAO) Operable Unit Wetlands Monitoring and
Butte Priority Soils Operable Unit (BPSOU) Stormwater Monitoring

Client: TREC Environmental Services
Service Area: Groundwater Testing, Stormwater Analysis
Contact: Craig Deeney (406) 586-8364
Date of Services:

a) LAO Operable Unit Wetlands Monitoring

The LAO Operable Unit is located in the western end of the City of Butte. A network of 12 wells is sampled weekly to document trends in groundwater quality, and to monitor impacts from ongoing remediation activities. The samples are analyzed for a large suite of parameters, including 16 trace elements (both total and dissolved), plus sulfate, nitrate, chloride, and several other general chemistry items.

b) BPSOU Stormwater Monitoring

The purpose of this project is to quantify impacts on local surface waters from storm events, which can wash significant quantities of mining-related materials into Silver Bow Creek and its tributaries. Samples are analyzed for several trace metals, and for common general chemistry parameters. Additionally, the HKM Lab submits detailed Data Validation Reports, which then are reviewed by an independent third party prior to formal submittal to regulatory agencies.

Because of this work's Superfund association, strict sample analysis protocols are followed in accordance with the EPA's Contract Laboratory Program Statement of Work (CLP).

Mine Waste Technology Testing Program (MWTTP)

Clients: MSE Technology Applications; Montana Tech of the University of Montana
Contact: Lynne McCloskey (406) 494-7371
Service Areas: Mining-Related Analysis; Waste Characterization
Date of Services:

The MWTTP is a joint effort by the U.S, Department of Energy (DOE) and the Environmental Protection Agency (EPA) to develop, test and implement waste remediation technologies at contaminated mine sites across the U.S. The HKM Lab analyzes groundwater, surface water, sludge, soil and sediment samples collected in association with technology development and demonstration at several Montana mine sites - both active and abandoned.

Analytical parameters include approximately 20 trace metals, and also general chemistry parameters. Additionally, we perform Toxicity Characteristic and Leaching Properties (TCLP) analyses on selected waste samples.

Short-Term Groundwater Monitoring and
Opportunity Ponds Pilot Project

Client: Pioneer Technical Services (PTS)
Contact: Joe McElroy (406) 782-5177
Service Areas: Drinking Water, Surface Water and Groundwater Analysis; Sediment Characterization
Date of Services:

a) Opportunity Ponds Pilot Project (OPPP)

The OPPP is involves remediation of the Opportunity Ponds Operable Unit of the SBC Superfund site, located between Butte and Anaconda, Montana. PTS is conducting remediation of waters and soils contaminated by historical mining-related activities; extensive sampling is conducted on an ongoing basis to evaluate the success of these efforts. The HKM Lab analyzes samples using CLP protocols for numerous trace metals, and also a number of general chemistry parameters including alkalinity, sulfate, fluoride, and total and dissolved solids. Additionally, many of these samples have been analyzed by iron and arsenic speciation.

b) Short-Term Groundwater Monitoring

The Short-Term Groundwater Monitoring project is being conducted within the Anaconda Regional Water and Waste Operable Unit of the SBC Superfund site, in and around Anaconda, Montana. It involves sampling of numerous wells - both residential and environmental - as well as several local surface waters. Environmental samples are analyzed using CLP protocols, while samples from residential wells are analyzed in accordance with State of Montana Drinking Water procedures. Parameters analyzed include numerous trace metals and a variety of general chemistry parameters.

Leviathan Mine Reclamation (California)

Client: EMC-Squared
Contact: Monika Johnson (406) 522-0251
Service Areas: Influent/Effluent Monitoring; Waste Characterization

Date of Services:

The Leviathan Mine, located in California near the Nevada border, is the subject of a large-scale remediation effort to mitigate the impact of wastes from historical mining activities. A large holding pond is employed as part of this effort. During the summer months, influent and effluent samples are received by the HKM Lab weekly - and at times daily - which require quick-turnaround analysis and reporting to support on-site operation decision-making. These samples are analyzed for numerous trace metals; results are used to demonstrate compliance with applicable environmental regulations, including discharge limits.

Additionally, the HKM Lab analyzes numerous sludge samples for over 20 trace metals using TCLP, California WET, TTLC and SPLP methodologies. These analyses required considerable method development on the part of HKM due to the difficult sample matrices.

Other Projects

In addition to the above projects, the HKM Lab also performs analyses for numerous other public- and private-sector clients, including:

- Compliance samples submitted quarterly from the Butte-Silver Bow Municipal Landfill, analyzed for numerous trace elements.
- Twice-weekly samples collected from the Warm Springs Ponds Operable Unit of the SBC Superfund site, analyzed for trace elements, turbidity and several general chemistry parameters.
- Biological tissue samples from several Montana locations.

III.2 Company Profile and Experience

III.2.1 Company Profile

The HKM Lab and its predecessors have been performing analytical work for both public and private-sector clients since 1978. The laboratory was originally formed to perform analyses in support of the U.S. Department of Energy's Magnetohydrodynamics (MHD) test facility, including water and waste streams, coal ash and air monitoring filters. In the early 1980s the laboratory expanded its services as part of MSE, Inc. (Mountain States Energy) to support private sector clients, primarily in the mining industry. With the advent of SBC Superfund site investigation and remediation activities in the late 1980s, the laboratory's environmental testing work increased drastically; this work continues to be the HKM Lab's largest business sector at present. In 1995 MSE, Inc. merged with HKM Engineering Inc. to form MSE-HKM, Inc.; HKM Engineering Inc. again became a separate company in 2000, which continues to this day.

The HKM Lab has experience in many analytical areas, ranging from compliance drinking water analyses to evaluation and quantification of remediation process waste streams. As a primary analytical laboratory for several firms doing Superfund work both within and outside Montana, the HKM Lab has developed expertise in analyzing many types of samples, including groundwater, surface water, soils, sediments, biological tissues, and stormwater. We also perform analyses for several mining-related remediation projects both within and outside Montana, as well as other specialized analytical work. These projects often entail analysis of unusual, often difficult sample matrices, and require the development of specialized methods to assure accurate, defensible results.

III.2.2 Key Personnel

The staff at the HKM Lab possess a wide array of expertise and are committed to uncompromising quality and performance. The HKM Lab encourages cross training of all lab staff, which optimizes productivity and promotes career development for employees. Interaction between the analysts is encouraged so they can assist specialists in other areas. Figure 1 shows the organization of HKM Lab personnel for typical environmental analytical work. The following paragraphs describe each person's responsibilities and qualifications. Resumes are included in Appendix A.

Gary Wyss, HKM Lab Manager

As the HKM Lab Manager, Gary is responsible for the oversight of all administrative and analytical activities in the laboratory. Gary holds a B.S in Geology from the University of Wisconsin and a M.S. in Geochemistry from Montana Tech of the University of Montana, and has been employed at the HKM Lab for 16 years. His past positions have included ICP Analyst, Metals Team Leader, Organic Team Leader, and Laboratory Quality Assurance Officer. Gary is the HKM Lab's primary point of contact, providing marketing materials, quotations and pricing for analytical services to clients. He is readily available to help clients interpret any results provided by HKM Lab. He is responsible for maintaining and staffing the laboratory so that the operation meets or exceeds client expectations of quality and expediency.

Steve Heck, Quality Assurance Officer

Steve holds a B.S. in Meteorology from the University of Utah and has conducted environmental data collection and quality assurance activities for 25 years. He is responsible for ensuring that analytical activities and data reporting are performed as specified by the applicable reference methods, and assists with final data review prior to reporting. Steve is also responsible for reviewing and updating Standard Operating Procedures (SOPs) and the HKM Lab Quality Assurance Plan (QAP), as well as assisting clients with the development of ambient QA/QC plans. Additionally, he monitors the completeness of laboratory documentation and oversees document control and the archiving system.

Marcee Cameron, Metals Team Leader/Lead Chemist

Marcee supervises metals analyses by ICP-AES, ICP-MS, GFAAS and CVAA. Marcee has a B.S. in Chemistry from Montana Tech of the University of Montana and has 7 years of experience including ICP-MS, CVAA and GFAAS operation. She has over 5 years of experience researching and conducting treatability studies to determine the feasibility of various waste treatment techniques, including on-site studies at mine sites throughout the U.S. and in Japan and China. She is also knowledgeable in the preparation and submittal of grants/proposals, including SBIR (Small Business Innovative Research).

Mindy McCarthy, Production Manager and Safety & Health Officer

Mindy fills dual roles at the HKM Lab as the Production Manager and Safety & Health Officer. Mindy obtained a B.S. in Environmental Engineering from Montana Tech of the University of Montana and has worked in a variety of positions for HKM Lab for the past eight years. As Safety & Health Officer, Mindy is responsible for reviewing and updating the HKM Lab Chemical Hygiene Plan (CHP) and conducting laboratory safety audits. Her responsibilities as Production Manager include tracking all sample analyses as they are performed, and acting as client liaison for analytical results.

Amy Lockmer, HKM Engineering Western Region Network Administrator

Amy is HKM Engineering's Western Region Network Administrator, and is available as needed to provide programming support for the data management and electronic deliverables associated with this project. She is experienced in developing software (e.g., Visual Basic modules for Excel), and in using Microsoft Access applications. Amy also is responsible for overall network maintenance and operating system support for HKM's Western Region, including the HKM Lab.

III.3 Method of Providing Services and Quality Assurance

The HKM Lab's ability to provide the necessary services in a timely manner is best demonstrated our analytical services in support of the Leviathan Mine reclamation activities near the California-Nevada border. The project involves frequent collection of holding pond effluent samples, which must be prepared, analyzed and reported on a quick-turnaround basis to facilitate on-site decision-making regarding discharging, etc. Samples also are analyzed using TCLP, California WET, TTLC and SPLP methodologies.

All samples are reported using hardcopy formats similar to those shown in Appendix D of this proposal. Additionally, the data are compiled into an electronic database deliverable (EDD) format developed in cooperation with Leviathan Mine reclamation representatives. The EDD for this project includes most of the elements identified in the Storet data format used for TMDL reporting.

Additionally, the HKM Lab was tasked with producing data validation reports for all Leviathan Mine data. These reports provide an assessment of data quality on an instrument-by-instrument basis, by comparing QA/QC results with accepted method-specific criteria. Data are flagged and qualified as appropriate, and data quality narratives are produced describing any data quality issues that must be considered by end users involved in data interpretation.

The HKM Lab QA Plan is presented as Attachment 1.

III.4 Staff Qualifications

Table 2 identifies personnel who are expected to be involved in HKM Lab analytical activities for this project. Professional rates are included for each, as requested. However, it is important to note that our analytical services are billed on a unit cost basis (i.e., a fixed amount for each given type of analysis), rather than time-and-materials. Please see Section V. of this proposal for a detailed cost breakdown by analysis type.

The HKM Lab project manager for this work will be Gary Wyss, the laboratory manager. Data quality concerns will be addressed by Steve Heck, the laboratory quality assurance officer. Please refer to Section III.2.2 for narrative information on key personnel proposed for this project. Resumes are provided in Appendix A.

III.5 Capacity to Provide Proposed Services

The HKM Lab is confident in our ability to process and analyze sample submittals in a timely and accurate manner. The following paragraphs address the concerns raised in Section 4.2.14 of the RFP.

Laboratory Capacity

The HKM Lab analyzes in the neighborhood of $1.0M worth of analytical samples in a typical calendar year. We have approximately 20 fulltime employees plus several part-time employees, and preparation facilities and instrumentation capable of processing large numbers of samples within a short time frame. Major instrumentation includes the following:

- An ICP-MS, ICP-AES, and three GFAAS units used for metals analyses;
- CVAA instrument for mercury analyses;

- GC-MS for organic analyses;
- Auto Analyzer and Ion Chromatograph for analyses of sulfate, chloride, bromide, nitrate, nitrite and fluoride; and
- Numerous apparatus for other general chemistry analyses.

At least two people on staff are trained in the operation of each instrument, and in performing each analysis.

Turnaround Time Goals

The HKM Lab's normal turnaround time is 4 weeks from date of receipt for metals samples, and the lesser of 4 weeks or the applicable holding time limit for other analytical parameters. Depending on clients' needs, shorter turnaround times are frequently necessary; in fact, approximately 30 % of our samples are analyzed on a quick-turnaround basis. A significant proportion of these require turnarounds as short as 24-48 hours (usually associated with technology demonstrations or environmental upset conditions). We are accustomed to receiving samples both in large lots (up to 20 samples per batch) and piecemeal; occasionally 100 or more samples are received in a single delivery. The HKM Lab continually works with clients to coordinate receipt and timely analysis of samples, and can make special arrangements for delivery of sampling supplies - including sample preservatives - as necessary. The HKM Lab also provides field sampling services for several clients using EPA protocols; this gives us a unique understanding of issues faced by data collection personnel, and their impacts on analytical requirements.

Samples are tracked from the time of their arrival until results are reported to ensure that clients' turnaround time requirements are achieved, and that method-specific sample holding times are not exceeded. This is critical since holding times for several general chemistry parameters range between 48 hours and 7 days.

III.6 Laboratory Quality Assurance Program

The HKM Lab's QA/QC program is documented in the "HKM Lab Quality Assurance Manual," version 8.0, updated in April 2005 (Attachment 1). The manual documents general practices and procedures that are used to assure that our analytical data is of a known and documented quality. It defines precision, accuracy and completeness calculations in accordance with commonly accepted analytical protocols. Because much of our work involves analysis of samples collected on CERCLA sites - particularly the Silver Bow Creek / Butte Area NPL site - our data is subject to stringent quality and validation requirements (often based on CLP criteria). As part of our analytical procedures, we routinely prepare blanks, laboratory control samples, spikes and duplicates with each batch to be analyzed, at frequencies consistent with recognized analytical methods. Every activity that occurs in the HKM Lab is thoroughly defined by detailed, individual Standard Operating Procedures, and our QA/QC program meets or exceeds criteria established by the U.S. EPA and State agencies.

The HKM Lab is accustomed to preparing project-specific Quality Assurance Project Plans (QAPPs) to ensure that clients' quality requirements are reliably achieved. These QAPPs closely parallel our existing QA Manual, and are likewise in accordance with both specific method requirements and commonly recognized good laboratory practices. The QAPP also identifies all project-specific aspects of the analytical and data reporting procedures. The HKM Lab's philosophy is to record all laboratory activities in sufficient detail so that past events can be accurately reconstructed without reliance on memory. This is accomplished by recording data in logbooks, forms, notebooks and spreadsheets as appropriate, and archiving records under a document control system.

III.7 Certification

The HKM Lab maintains drinking water certification under a program administered by the Montana Department of Public Health & Human Services (DPHHS). Our current certification is valid through April 30, 2006; a copy is included as Appendix B. Additionally, the laboratory routinely provides analyses compliant with protocols for the EPA Contract Laboratory Program (CLP) for Superfund activities.

The HKM Lab is regularly audited by the Montana DPHHS, and also receives frequent audits from our clients to document compliance with project-specific quality requirements.

III.8 Performance Evaluation Studies

As a condition of our DPHHS certification, the HKM Lab analyzes Water Supply (WS) performance evaluation (PE) samples twice per year. Results of the two most recent PE sample results are included in Appendix C.

Any unsatisfactory PE results are followed by an internal review, and implementation of appropriate corrective actions. To maintain certification for a given analytical parameter, at least one satisfactory PE result must be obtained for each calendar year.

Figure 1 – HKM Laboratory Organization Chart

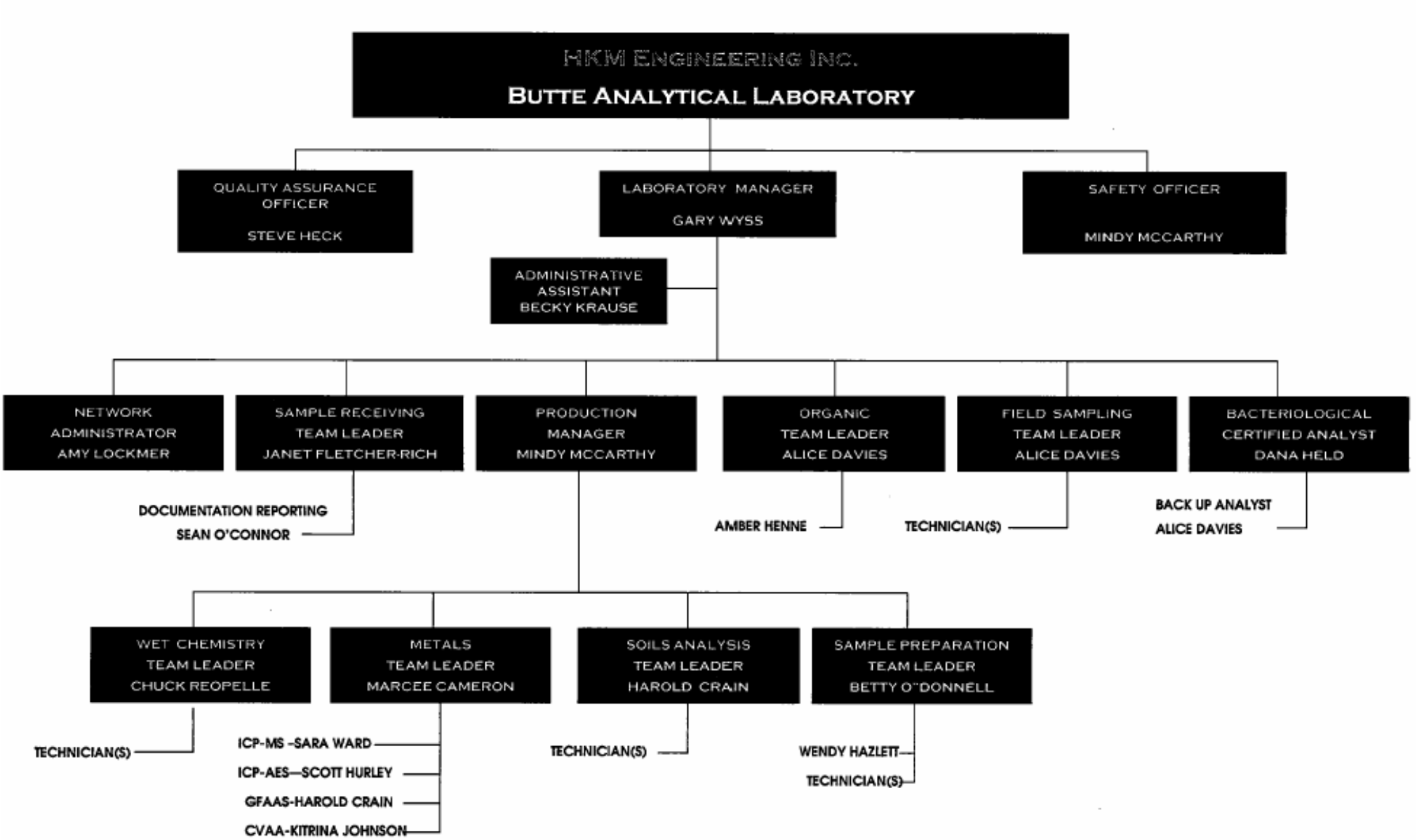

Table 2 – HKM Laboratory Personnel Summary

A. Key Personnel

Name	HKM Lab Function	Degree(s)	Years Prof. Experience		Hourly Rate
			Overall	HKM Lab	
Gary Wyss	Laboratory Manager	B.S. Geology M.S. Geochemistry	16	16	
Marcee Cameron	Lead Chemist/Metals Team Leader	B.S. Chemistry	5	2	
Steve Heck	Quality Assurance Officer	B.S. Meteorology	27	3	
Amy Lockmer	Network Administrator	B.S. Computer Studies	7	2	
Mindy McCarthy	Production Manager/Safety Officer	B.S. Environmental Eng.	7	7	

B. Support Staff

Name	HKM Lab Function	Degree(s)	Years Prof. Experience		Hourly Rate
			Overall	HKM Lab	
Harold Crain	GFAAS/Soils Analysis Team Leader	B.S. Applied Mathematics			
Alice Drew-Davies	Organic Team Leader	B.S. Metallurgy			
Janet Fletcher-Rich	Sample Receiving Team Leader	B.S. Biology			
Scott Hurley	ICP-AES Analyst	B.S. Business			
Sean O'Connor	Documentation Reporting	B.S. History		4	
Betty O'Donnell	Sample Preparation Team Leader				
Chuck Reopelle	Wet Chemistry Team Leader				
Sara Ward	ICP-MS Analyst	B.S. Biology		2	

IV. REPORTING RESULTS

IV.1 Hardcopy Report and Quality Control Summary

An example hardcopy data report is provided in Appendix D, including:

Example 1 - a typical sample summary and quality control report for a metals in groundwater analysis, and;

Example 2 - a representative report of results for wet chemistry parameters.

These reports represent common data reporting formats for existing clients. However, the HKM Lab is frequently called upon to develop customized formats in support of clients' regulatory data reporting requirements; we will work with TMDL program personnel as necessary to finalize the required appropriate hardcopy format.

The typical hard copy report package from the HKM Lab includes the following elements at a minimum:

- Cover letter;
- Sample summary and QA/QC summary;
- Sample integrity checklist; and
- Copy of the chain-of-custody (COC) submitted with the samples.

A discussion of each is provided in the following paragraphs.

Cover Letter

The cover page is pre-printed with the HKM Lab logo and address, phone and fax numbers, and the HKM internet URL. The report date, client name, company/project, address, and test report identifier (BIF) are included in the header information, as well as the sample receipt date. The cover letter is signed by the laboratory manager or his designated representative when the report is approved for release.

Sample Summary and QA/QC Summary

Sample Summary

The Excel report format (Examples 1 and 2) varies considerably, dependent upon client specifications. Characteristically, the report header has the HKM logo with the client, project name and batch number. Elements of the report include the unique laboratory assigned identifier, client identifier, date and time sampled, analyte headers with units and a line (row) with the analyte detection limit and regulatory detection limit, if appropriate. The analyte results are shown in the body with the applicable concentration qualifier. Non-detects are presented with the IDL, adjusted, followed by "U" in the concentration qualifier column. This format is derived from EPA Contract Laboratory Program (CLP) reporting conventions. The footer has the HKM Lab name and review line, which must be initialed by a qualified staff member prior to release.

Other Excel formats have been developed to contain any desired information, since all raw data, bench sheets and batch information are accumulated in client-dedicated files for ease of access. Therefore, sample preparation and analysis data can be added as needed.

Results are reported to consistent significant figures down to the MDL. The rounding convention is to round to two significant figures for results less than 10 and to three significant figures for results equal to or greater than 10. Data report completeness is verified by comparing the report with the COC originally submitted by the client.

QA/QC Summary

Quality assurance (QA) results are linked to the original samples by the HKM Lab batch number. At a minimum, the QA summary includes results for the batch method blank (PB), the laboratory control sample, laboratory duplicate and laboratory spike sample (see Example 1). The QA/QC summary includes LCS and spike true values, and percent recovery calculations. The relative percent difference (RPD) calculation is reported for precision on the laboratory duplicate. Spike calculations are presented unless the sample concentration is greater than four times the indigenous sample concentration, in which case the recovery criteria do not apply. The recovery criteria are 80-120 % for LCS, and 75-125 % for spikes. Blank criteria vary depending on the analytical method(s) used, and on the project-specific requirements.

Additional QA/QC information is frequently added to our reports per client requirements, such as matrix spike duplicate and triplicate sample results.

Sample Integrity Checklist

The sample integrity checklist documents the condition and status (i.e.-proper preservation, sample volume, temperature, COC, etc.) of the samples upon delivery to the laboratory. A copy is included with client data reports.

Chain of Custody

A copy of the signed chain-of-custody is included in the client data report (if submitted with the samples). Original reports are included for subcontracted analytical work, and a copy is retained for the HKM Lab records.

Data Retention Policy

All raw data is maintained for five years at the HKM Lab. Drinking water analysis data is retained for ten years. Different periods of retention can be accommodated depending on client requirements.

IV.2 Electronic Data Deliverable

The HKM Lab routinely provides analytical results electronically in Microsoft Excel format. Typically, inorganic general chemistry results are queried from the LIMS and converted into Excel, while most metals results originate in Excel. The general chemistry and metals results are combined in an Excel file, and then e-mailed to the client. The HKM Lab records contain the information specified in the Storet EDD. Data collected for TMDL projects will be collated and entered into an Excel format that contains the data elements described in the Standard Guidance to Format Sample Results, Field Measurements and Associated Metadata for EDD posted on the MT DEQ website which was updated in October 2004. HKM employs IT personnel that assist and maintain the laboratory LIMS, and provide the capability to offer various client-specific EDD formats (e.g., to facilitate direct importation into clients' databases).